

INTER



MAR



INTERMAR
HF-Remote-
Projekt

Impressum

INTERMAR Amateur-Seefunk e. V.
Deutsches Maritim Mobile Service Netz

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Anmerkung

Alle Rechte der jeweiligen Artikel, Zeichnungen, Fotos usw. liegen bei den jeweiligen Autoren!

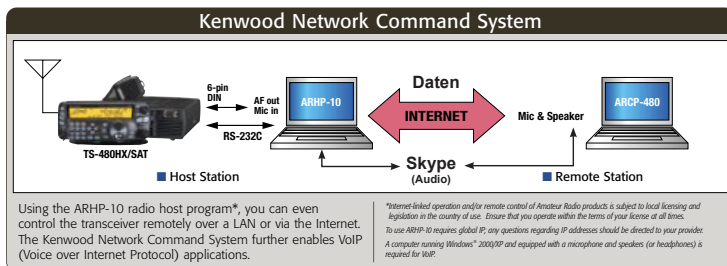
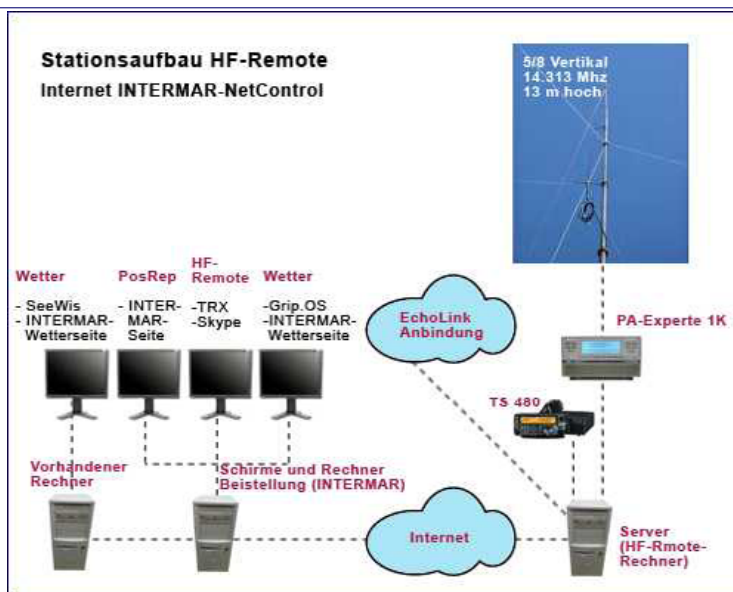
Bilder und Screenshots in diesem Handbuch entsprechen lediglich der Internet-Qualität von 72 DPI.

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INTERMAR HF-REMOTE

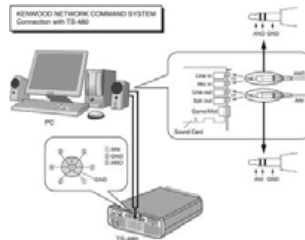
1. INTERMAR HF-Remote – Aufbau





Installationen

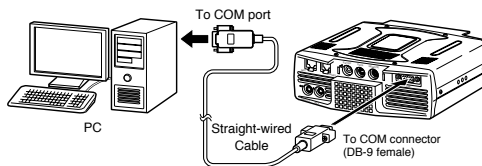
- ARH10 installieren
- Verbindung Rechner zu TS480



COMPUTER

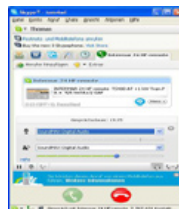
The **COM** connector allows you to directly connect a computer or dumb terminal by using a straight-wired cable, having a DB-9 female connector at each end.

No external hardware interface is required between your computer and the transceiver.

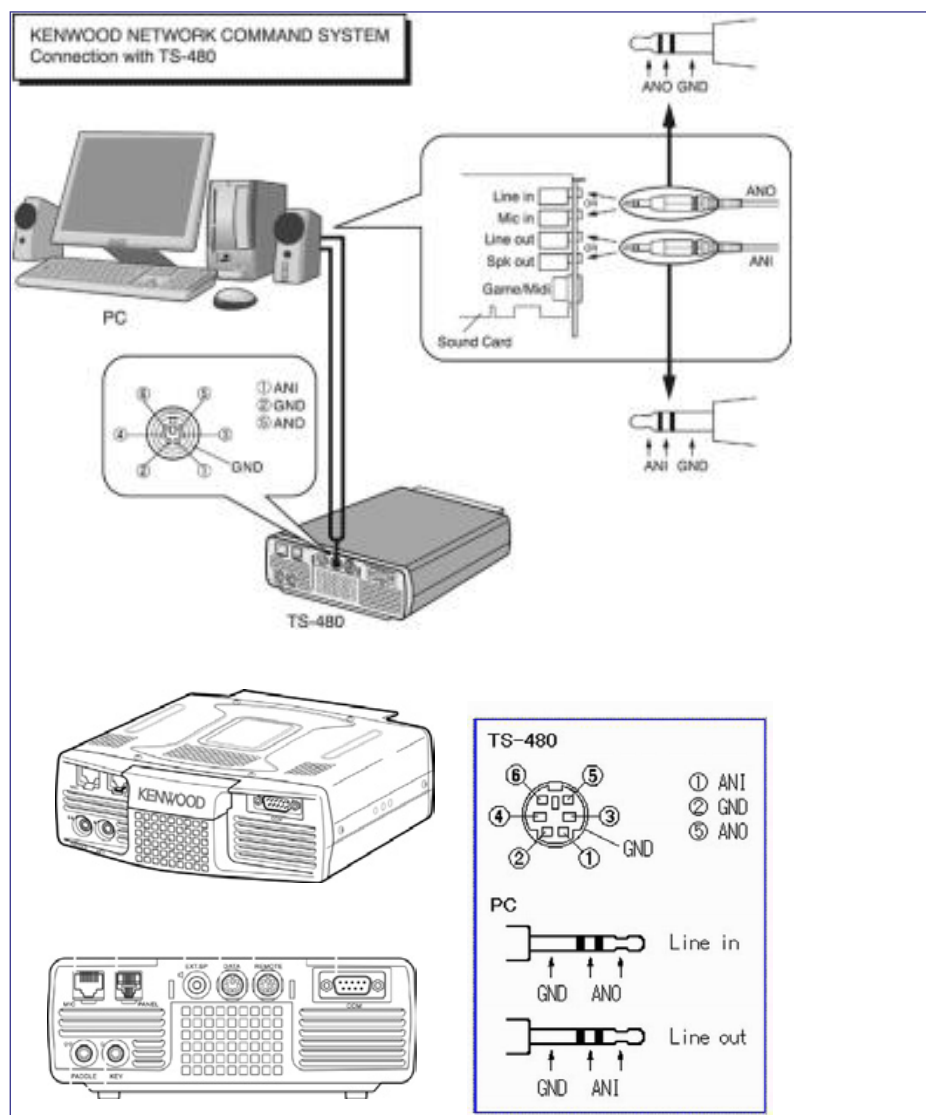


Skype installieren

- Eine geschlossene Benutzergruppe (mit Anrufschutz) einrichten
- Automatische Anrufannahme aktivieren (alle Leistungsmerkmale von Skype)



INTERMAR HF-REMOTE



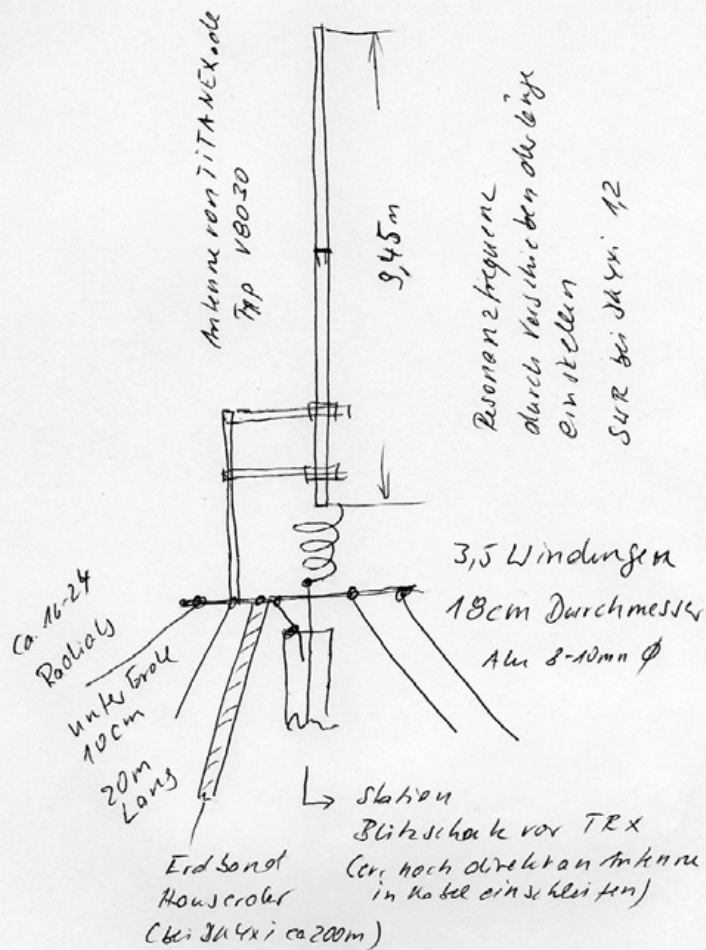
2. INTERMAR HF-Remote – Antenne

INTERMAR HF-Remote-Antenne 5/8 Lamda 14.313 KHz



5/8 Lambda Vertikal 14.313 kHz

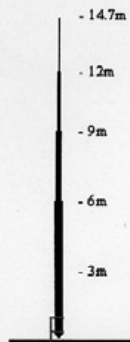
3k4xi



V 8030

80m, 40m, 30m

Extrem leichte Stations-, Portabel- oder Expeditions-Antenne

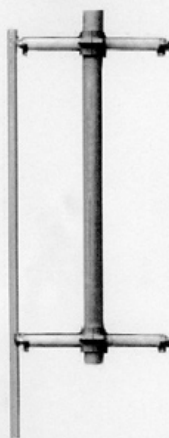


- ☐ Bänder: 80m, 40m, 30m
- ☐ Höhe: **14,7m**
- ☐ Gewicht: nur 3,5kg (ohne Standfuß)
- ☐ Abspannung: keine, in windstarken Gebieten leichte Abspannung empfohlen
- ☐ Maximaler Output: 10kW PEP auf Resonanz
- ☐ Radials: nicht im Lieferumfang
- ☐ Standfuß: Typ A
- ☐ Versandlänge: 3,10m
- ☐ Max. Rohrlänge: 3m
- ☐ Einspeisung: Anpassbox: V8030 AF3 (nicht im Lieferumfang)

Antennen-Füße

TITANEX® Vertikals werden mit einem der folgenden Standfüße geliefert entsprechend den oben genannten technischen Daten.

Antennenfuß Typ "AA"



Antennenfuß Typ "A" besteht aus galvanisiertem Profilstahl. Das Profil ist etwa 1m lang, ca. 8cm breit mit 4cm langen Seiten. Zwei Befestigungslöcher sind durch die Mitte geführt - eines an der Spitze, das andere ca. 30cm vom Boden. Der untere Teil des Profils wird etwa 30cm tief in den Boden geschlagen oder in Beton verankert.

Die Antenne selber wird mit dem Stahlprofil über zwei Isolationsrohre aus GFK verbunden. Der Fuß der Antenne wird dann in den Kreuzschellen an den Isolatoren befestigt.



Antennenfuß mit Anschluss-Radials
und Erdband.

Abstimmen der Antenne durch
verschiedene Antennenrohre auf
bestes SWR.

Achtung: Blitzschutz in Kabel
einsetzen.

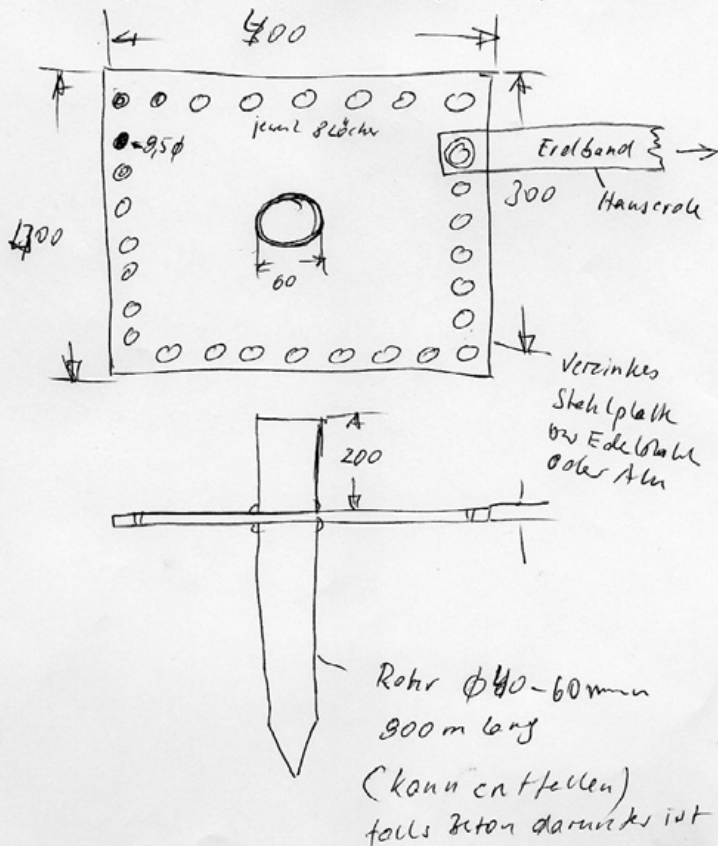
Haftungsausschluss: Wir überneh-
men keine Haftung für eventuelle
Schäden und sonstiges beim
Nachbau.



Bodenplatte 5/8 Vertikal
20m

Für Radialverschraubungen

ca 16-24 Radial, unter Erde 10cm
ca 20m lang

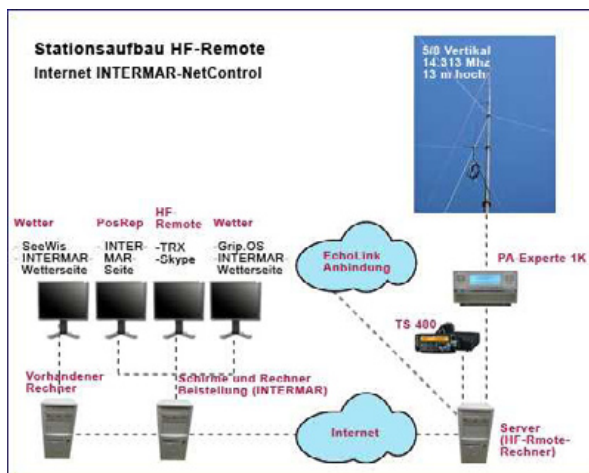


3. INTERMAR HF-Remote – Bedienungsanleitung



Aufbau und Funktion

Alle Infos auf der INTERMAR-24 HF Remote CD Version v22



Systemvoraussetzungen für den Benutzer:

Software:

- Radio Control Programm ARCP- 480 Version 1.01
http://www.kenwood.com/i/products/info/amateur/software_download.html
- Skype v3.5.0.214 (aktuelle Version: <http://www.skype.com/intl/de/helloagain.html>)
- Windows Internet Explorer 7, oder Mozilla Firefox?

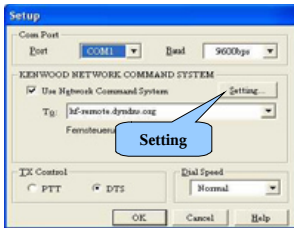
Hardware:

- PC (lauffähiges Windows Betriebssystem hier XP Professional V 5.1)
- Soundkarte
- Kopfhörer- Sprechgarnitur

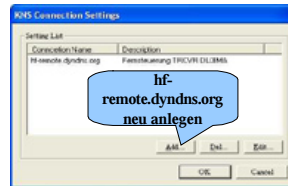
Einstellungen/Zugang:

- **In Software ARCP- 480:**

Menue Control Setup:



Port: COM 1 Baud: 9600bps
 ✓ use Network Comand System
 TX Control: DTS Dial Speed: Normal



Setting: „Add“ anklicken und neuen Eintrag (Detailed Setting) machen.

INTERMAR- NetControls bitte Kontakt mit Rolf DL01MA aufnehmen.

Sonstige OM's die eine eigene Remotestation aufbauen möchten, müssen hier natürlich ihre eigenen Konfigurationsdaten eintragen.



- **In Software Skype:**

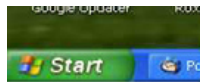
Verbindung mit Skype- Name: „Intermar 24 HF-remote“ einrichten; erfordert Anrufen und warten bis Freischaltung durch Rolf DL0IMA! (mit Rolf vorher absprechen). Schieberegler Wiedergabe (Begrenzung) auf ca. Stufe 8 stellen. Mikrofonverstärkung regelt Skype automatisch ab!!

- **Einstellungen Audio:**

Mit rechtem Mausklick auf das Lautsprechersymbol in der Taskleiste öffnen. Unter Optionen kann man zwischen Wiedergabe und Aufnahme wechseln.



... oder über ... das Windows Startmenü:



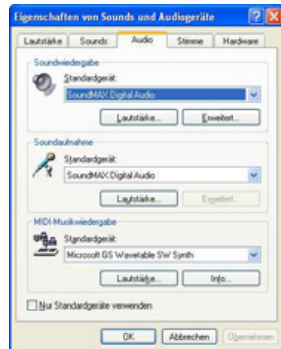
Systemsteuerung...

Sounds und Audiogeräte öffnen...

Eigenschaften Audio.

Soundwiedergabe Lautstärke und

Soundaufnahme Lautstärke öffnen.



- **Einstellungen Wiedergabe:**

Lautstärke, Mikrofon, alle keine Häkchen. Schieberegler Lautstärke: 3, Mikrofon: 7 (bzw. nach gewünschter Lautstärke im Kopfhörer, individuell anpassen)

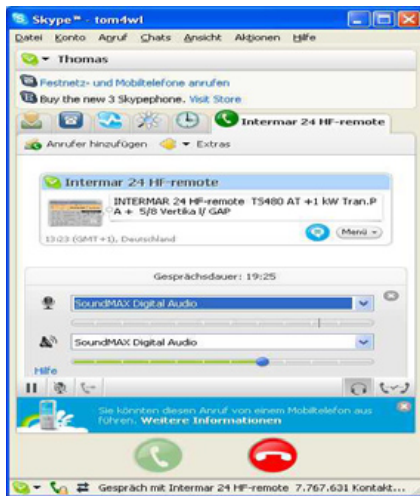
- **Einstellungen Aufnahme:**

Mikrofon, Schieberegler Mikrofon Lautstärke: 7 (wird aber von Skype geregelt), Bei Mikrofon Erweitert: 1 MIC Boost ausgewählt bzw. Häkchen.

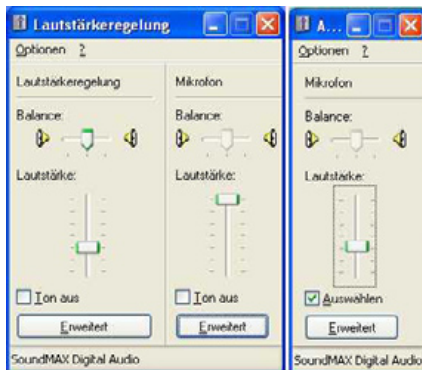
Bedienung: Teil 1 (wenn alles w.o. eingerichtet ist)

NetControl Übertragung Kurzwellen (TX/RX) und EchoLink (nur RX)

1. Skype starten und mit „INTERMAR 24 HF-remote“ verbinden. Das Rauschen des Empfängers sollte schon zu hören sein.

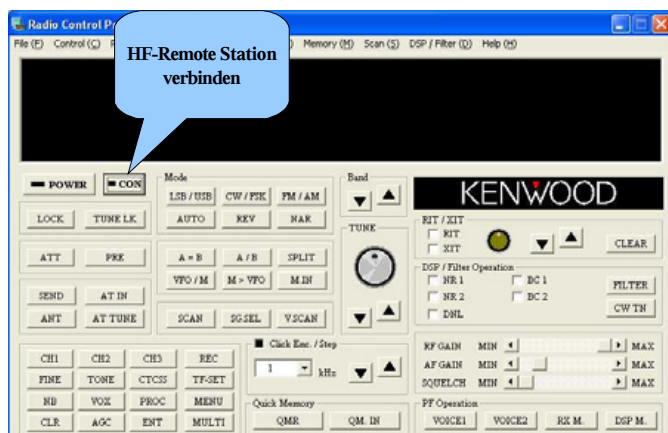


2. Lautstärkeregelung für Wiedergabe und Aufnahme öffnen.

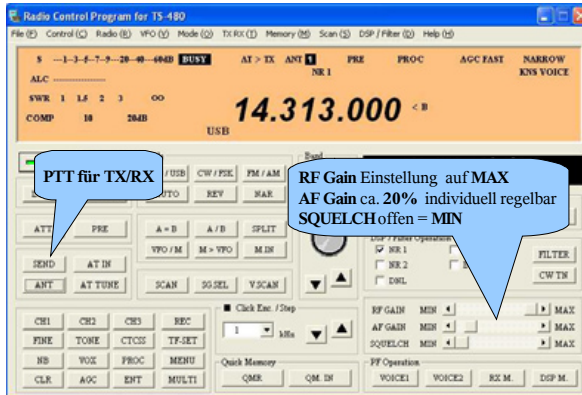


3. Kenwood Radio Control Programm „ARCP- 480“ starten.

- Durch Klick auf CON Verbindung herstellen.

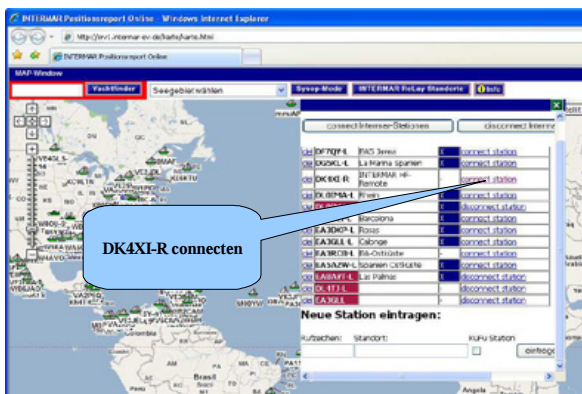


- Zum Senden bzw. Empfangen auf die Taste SEND klicken.



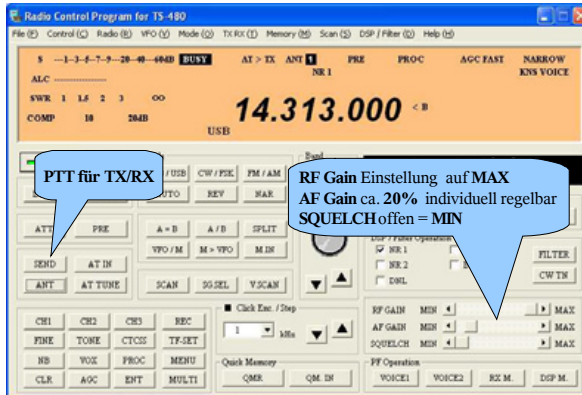
4. EchoLink Übertragen.

- Positionsreport Online <http://srv1.intermar-ev.de/karte/karte.html> öffnen
- als Sysop (mit Passwort) einloggen
- DK4XI-R zum Konferenzserver dazu connecten.
-



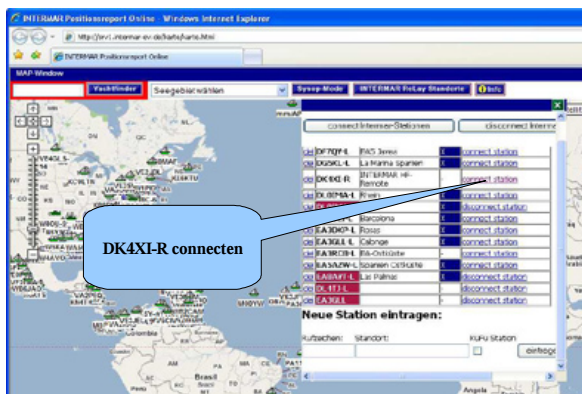
INTERMAR HF-REMOTE

- Zum Senden bzw. Empfangen auf die Taste SEND klicken.



4. EchoLink Übertragen.

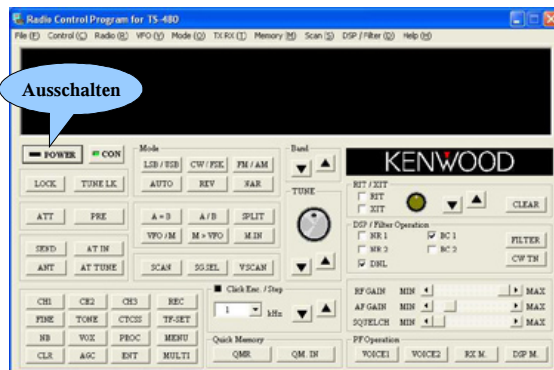
- Positionsreport Online <http://srv1.intermar-ev.de/karte/karte.html> öffnen
- als Sysop (mit Passwort) einloggen
- DK4XI-R zum Konferenzserver dazu connecten.
-



Bedienung: Teil 2

NetControl nur EchoLink-Betrieb TX/RX

- Power off = Transceiver ausschalten (Achtung: Am Schluss wieder einschalten s. Bedienung Teil 3)
- Sprechen (Skype) = Sprechen (Vox- Übertragung nach EchoLink)
- Sprechpause (Skype) = Hören (Vox- Empfang von EchoLink)



Bedienung: Teil 3

Achtung!

Funkbetrieb ist nur im 20 Meterband auf 14313 kHz erlaubt. Ansonsten besteht wegen Fehlanpassung der Antenne Zerstörungsgefahr für die Transistor- PA

Nach Benutzungsende immer beachten!

- Funkgerät nach EchoLink- Betrieb wieder **einschalten**.
- Programm Skype und ARCP 480 beenden.
- DK4XI-R wieder vom Konferenzserver disconnecten.

Bei Interessen- Anfragen, Ideen, Verbesserungsvorschlägen bitte Mail an
Rolf dl0ima@intermar-ev.de

4. INTERMAR HF-Remote – Transceiver

The image features a Kenwood TS-480HX/TS-480SAT HF/50MHz All-Mode Transceiver as the central focus. The transceiver is a black, dual-band unit with a large yellow LCD screen displaying '14.200.00' and '14.210.000'. It has a variety of control buttons, including a numeric keypad, and a large silver volume knob. To the left of the transceiver is a black speaker with a silver grille. In the background, a computer monitor displays a software interface with various data fields and graphs. The entire setup is on a dark wooden table. In the background, a cozy cabin interior is visible, featuring a stone fireplace, a window seat with cushions, and large windows looking out onto a forested landscape. A microphone on a stand is positioned to the right of the transceiver. A yellow circular badge in the bottom right corner of the image states '5MHz Included'. The Kenwood logo is prominently displayed at the top of the image.

KENWOOD

TS-480HX/TS-480SAT

HF/50MHz All-Mode Transceiver

KENWOOD
NETWORK COMMAND SYSTEM
with Voice over Internet Protocol capability

5MHz
Included

DX Distinction — *Creative Concept, Elegant Engineering*

■ **200W output (50MHz: 100W) DC 13.8V operation:** The TS-480HX is a highly versatile rig offering 200W output (50MHz: 100W) — making it ideal for both base station and DX'ing applications.

■ **100W model:** The 100W TS-480SAT is additionally equipped with a built-in automatic antenna tuner.

■ **TX/RX AF DSP:** 16-bit AF digital signal processing offers such powerful features as noise reduction, TX/RX equalizer, and AF filters.

■ **Separate LCD control panel with speaker:**

Sporting a large amber LCD with backlit keys, the standalone control panel can be positioned anywhere up to 13 feet or 4 meters from the main unit.

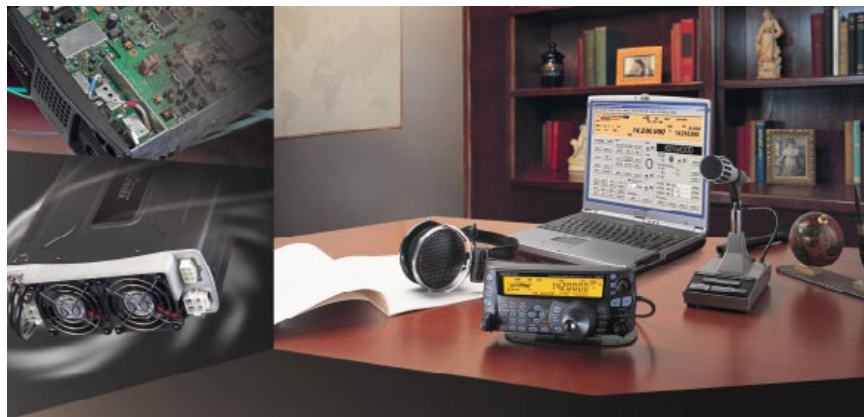
■ **Continuous RX: 500kHz (VFO: 30kHz) to 60MHz**

■ **TX covers all Amateur bands 1.8MHz to 50MHz**

■ **Other features** include a quad-mixer that provides RX dynamic range in the TS-950 class, PSK31 compatibility, packet cluster tune (with TM-D700A), PC-based control, and optional IF filters.



INTERMAR HF-REMOTE



Tailor-made for DX'ing, the new TS-480HX HF transceiver raises the bar on mobile performance. Despite its compact dimensions, it delivers an astonishing punch: 200W with a DC 13.8V supply. Yet its separate control panel is perfect for base station use. Sharing virtually all the same powerful features is the 100W TS-480SAT, except that it boasts a built-in antenna tuner. Whichever model you choose, you can be sure of enjoying the best of both worlds — first-rate communications at home and on the trail.



HF/50MHz All-Mode Transceiver

TS-480HX
200W Model

TS-480SAT
100W Model
with Built-in Automatic Antenna Tuner



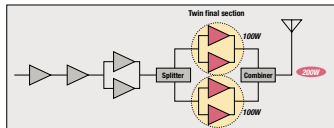
One Rig to Rule Them All — Kenwood Engineering at Its Finest

As a go-anywhere HF/50MHz all-mode transceiver, Kenwood's new TS-480HX/SAT is well ahead of the pack when it comes to advanced electronic engineering, convenient features and ease of operation.

EXCELLENT POWER AND PERFORMANCE

High RF power output

Equipped with a twin final section featuring splitter and combiner circuitry, the TS-480HX can provide up to 200 watts RF output (50MHz: 100W) with a DC 13.8V power supply. The TS-480SAT delivers up to 100 watts.



Separate Power Sources

The 200W TS-480HX features two power terminals (DC1, DC2) for separate supply to each half of the twin final section; voltage balance is optimized to ensure stable output. This arrangement allows for use of two PS-53 power supplies or a single 41A power source.

Twin cooling fans

When used for extended periods, the heat build-up inside a compact transceiver can be a serious concern, reducing its working life. But the components in the heavy-duty TS-480HX/SAT are designed to withstand heat. What is more, it is equipped with a die-cast

aluminum chassis and twin fans for enhanced cooling efficiency.

And since the control panel is separate from the main unit, the fans are able to generate a powerful air-flow from front to back.

As a result, you can rely on this transceiver to transmit continuously for 30 minutes* without having to power down.

*This figure is supplied for reference purposes only and depends on there being an ambient temperature of 25°C, antenna SWR of 1.2 or less, and nothing to obstruct the air flow generated by the cooling fans.



RX dynamic range

A quad-mixer provides RX dynamic range equivalent to that of the TS-950 class (at 50 kHz separation).

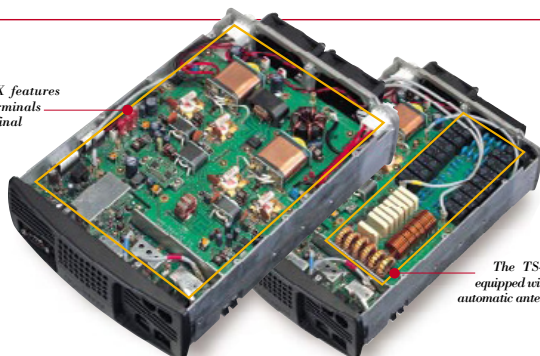
CW support

There is a full range of CW features, including auto tune. When in SSB mode, a simple key-press will switch automatically to CW. Another convenient feature is the ability to record three different messages for quick transmission during contests. You can choose between full and semi-break-in; for the former the delay time between key release and active receive mode can be set for between 50ms and 1000ms in 50ms steps. Other CW features include pitch control (400-1000Hz), side tone monitor with 10-step volume setting, an electronic keyer, microphone paddle mode and CW reverse mode.



INTERMAR HF-REMOTE

The TS-480HX features two power terminals for the twin final section.



The TS-480SAT is equipped with a built-in automatic antenna tuner.

IF filters (option)

Optionally available for more intense operations are 500Hz and 270Hz band CW narrow IF filters (YF-107C, YF-107CN), as well as a 1.8kHz band SSB narrow IF filter (YF-107SN). Any two of these IF filters can be installed inside the transceiver.



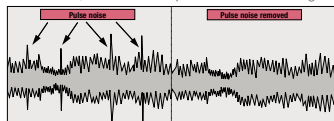
AF DIGITAL SIGNAL PROCESSING (TX/RX)

Thanks to a 16-bit digital signal processor offering double-precision arithmetic operations (equivalent to 32-bit processing), a 100MHz clock and 16-bit A/D & D/A converters, the TS-480HX/SAT offers many powerful features.



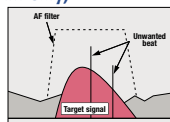
Digital noise limiter (DNL)

With three level settings, the DNL is highly effective in removing even the pulse noise that cannot be eliminated with conventional analog circuitry and noise blankers. For extra darity, however, it can be used in conjunction with a noise blanker, which removes pulse noise at the IF stage.



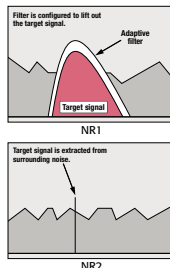
Beat cancel (SSB/AM only)

DSP will also cancel out multiple beats falling within the AF filter range. Choose BC1 to remove weak and/or continuous beat interference, or BC2 to handle intermittent beat, like that of a CW signal.



Noise reduction

NR1 is a line enhanced filter with 10 level settings (including auto) — great for extracting a target signal. A good choice for CW operations is NR2 (SPAC), adjustable in 2ms increments (2~20ms); it can suppress noise at the same frequency as the target signal, allowing it to pull a weak target signal out from the surrounding noise.



TX/RX equalizer

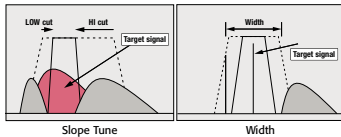
The equalizer offers flat (default), high boost (2 types), formant pass, bass boost (2 types), conventional and user* settings, separately for transmit and receive.

*Configurable using the ARC-480 radio control program.



AF filters

Slope tune can be used to move the target signal away from noise using hi-cut and low-cut filters (SSB, FM and AM), while Width allows adjustment of the pass-band to avoid adjacent noise (CW/FSK).



TX filter

Audio quality during transmit can be adjusted to suit by switching between two passband settings (500-2500Hz and the default 300-2700Hz).

Speech processor

Available for SSB, FM and AM transmission, the speech processor enhances the clarity of messages for the receiving station. Input/output levels can be finely adjusted (0-100).

CW auto tune

This feature uses DSP to automatically zero in on a target frequency during CW operations. It is also RIT compatible.

ENHANCED OPERATING EASE

Built-in automatic antenna tuner (TS-480SAT)

The automatic antenna tuner inside the TS-480SAT — with presets for quick band changes — covers all amateur bands 1.8MHz to 54MHz.



Emphasis on portability

Outdoor use is facilitated by DC 13.8V operation and compact dimensions: the 7.05lbs. (3.2kg) main unit measures 7-1/16" x 2-3/8" x 10-3/16" (179 X 61 X 258 mm)(W X H X D)*, while the 1.1lbs. (0.5kg) control panel is 7-1/16" x 2-15/16" x 1-7/16" (180 X 75 X 37 mm)(W X H X D)*

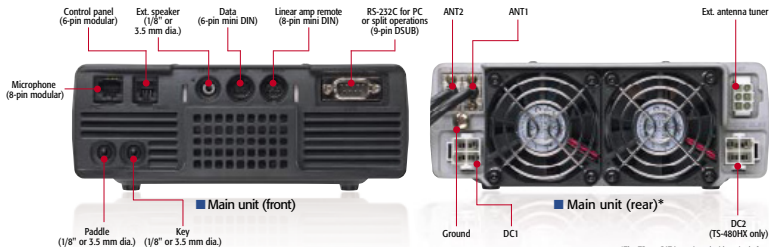
*Projections not included.

Separate LCD control panel with speaker

The large, standalone LCD control panel — featuring its own 2-5/8" (6.6cm) speaker (2W max. output) — can be freely positioned up to 13 feet (4 meters) from the main unit. The supplied tabletop panel bracket is convenient when using the transceiver at home on a desk, while the mobile panel bracket is ideal for mounting in a car. The panel can be snapped into place or removed from a bracket instantly. It also features 34 keys, each with backlighting to enhance operating ease.



External terminals



*The TS-480SAT is equipped with a single fan.

INTERMAR HF-REMOTE



Attractive backlighting of the LCD and keys facilitates operation at night.

■ Memory Name function

Clear identification is possible for the 100 memory channels with up to 8 alphanumeric characters each.

■ Multiple scan functions

Included among the many scan functions are program scan, memory scan, group scan, subtone scan and CTCSS scan.

■ PC-based control

The ARCP-480 radio control program (freely downloadable from the Kenwood web site)* enables PC-based control of all transceiver functions, as well as the customizing of TX/RX equalizer curves.



*<http://www.kenwood.net>

■ PSK31 compatible (SSB/FM)

The TS-480HX/SAT can be connected directly to a computer for the increasingly popular PSK31 mode. It also offers the following convenient features:

- Separate adjustment of AF input/output levels (10 steps)
- Choice of center frequency (1000Hz or 1500Hz)
- Adjustable AF DSP filter bandwidth (7 steps)
- Selectable CW narrow IF filters (if installed)
- TX with VOX function (no need for a PTT control line)
- Microphone muting during PTT operation via the data terminal

■ Voice guide & storage unit (option)

The VGS-1 voice guide and storage unit can serve two important roles: vocal confirmation of frequency, key operation, etc., and recording/playback of messages received by the transceiver. A total of 90 seconds (3 x 30 seconds) can be recorded and stored in Flash ROM for playback and transmission. Additionally, a convenient constant record function means you can always play back the last 30 seconds of reception for confirmation.

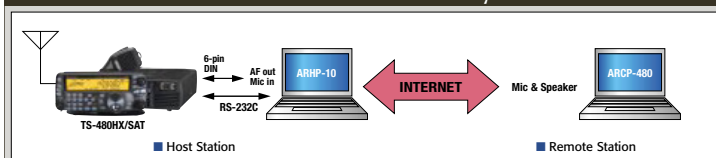


■ Other Features

- Transverter display function (up to 999.9999 MHz)
- Wide/Narrow deviation selection (FM TX)
- Direct Frequency Entry
- CTCSS (42 subtone frequencies)
- 1750Hz Tone
- TX Monitor
- 5W Minimum RF Output for QRP Operating
- FSK Reverse
- Noise Blanker
- Packet Cluster Tune with TM-D700A*
- Cross-Band-Repeater(HF, VHF) with TM-D700A
- Auto Power Off
- Time-out Timer

*Frequency data received by the TM-D700A (version C2.0 and later) can be transferred to the TS-480 via RS-232C cable (not supplied).

Kenwood Network Command System



Using the ARHP-10 radio host program*, you can even control the transceiver remotely over a LAN or via the Internet. The Kenwood Network Command System further enables VoIP (Voice over Internet Protocol) applications.

*Internet-linked operation and/or remote control of Kenwood Radio products is subject to local licensing and legislation in the country of use. Ensure that you operate within the terms of your license at all times.
To use ARHP-10 requires global IP; any questions regarding IP addresses should be directed to your provider.
A computer running Windows® 2000/XP and equipped with a microphone and speakers (or headphones) is required for VoIP.

INTERMAR HF-REMOTE

Options

SO-3
T.O.U.



PG-4Z
Panel Extension Cable
K2 (4 meters)



MC-43S
Hand Microphone
(requires MJ-88)



PS-53
Heavy-duty
Power Supply
(22.5A)



ARCP-480
Radio Control Program
(available free for downloading
from the Kenwood website:
www.kenwood.net)



YF-107C
500Hz CW Filter



PG-20
DC Cable
(7 meters)



MC-47
Hand Microphone
(requires MJ-88)



SP-23
External Speaker



YF-107CN
270Hz CW
Narrow Filter



HS-6
Headphones



MC-60A
Desktop Microphone
(requires MJ-88)



SP-50B
Mobile Speaker



ARHP-10
Radio Host Program
(available free for downloading
from the Kenwood website:
www.kenwood.net)



YF-107SN
1.8KHz SSB
Narrow Filter



LF-30A
Low-pass Filter
(for TS-480SAT)



MJ-88
Microphone
Connection Cord



VCS-1
Voice Cable &
Storage Unit



Not all accessories may be available. Please contact dealers for details.

Specifications

	TS-480HX	TS-480SAT
GENERAL		
Transmitter Frequency Range	160, 80, 40, 30, 20, 17, 15, 12, 10, 6m bands	
Receiver Frequency Range	0.5 ~ 30MHz (SSB), 0.5 ~ 54MHz (VFO), Continuous 30kHz ~ 60MHz	
Mode	SSB (DSB), CW (A1A), FSK (F1B), FM (F3E), AM (A3E)	DC13.8V±15%
Power Requirements	DC1: 13.8V±15% DC2: 13.8V±15%*	DC13.8V±15%
Current Drain	Transmit DC1: Less than 20.5A; DC2: Less than 20.5A*	Less than 20.5A
Standby	Less than 1.5A	Less than 1.5A
Operating Temperature	-20°C ~ +60°C	
Frequency Stability	Main unit Within ±5ppm (-10°C ~ +50°C) Within ±10ppm (-20°C ~ +60°C) With optional SO-3 attached Within ±0.5ppm (-10°C ~ +50°C) Within ±1.0ppm (-20°C ~ +60°C)	
Antenna Impedance	50 Ω	
Microphone Impedance	600 Ω	
Grounding Method	Negative ground	
Dimensions (W x H x D)	Main unit: without / with projections 7-1/8" x 2-3/8" x 10-5/16" (179 x 61 x 258 mm) / 7-1/8" x 2-3/4" x 10-5/16" (179 x 65 x 278 mm) Panel: without / with projections 7-1/8" x 2-15/16" x 1-1/16" (180 x 75 x 37mm) / 7-3/16" x 5-1/16" x 2-1/16" (183 x 78 x 68mm)	
Weight (approx.)	8.5lbs: Main unit 10.5lbs/Panel 1.1lbs (3.7kg: Main unit 5.2kg/ Panel 0.5kg)	

* Voltage differential between DC1 and DC2 is within 1V.
* Two power sources each of more than 20.5A or a single 41A source (20.5 + 20.5A) required.
These specifications are guaranteed for Anritsu Brands only.
Kenwood follows a policy of continuous advancement in development.
For this reason, specifications may be changed without notice.



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Communications Division

Division Headquarters
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Customer Support/Distribution

P.O. BOX 22745, 2201 East Dominguez St., Long Beach, CA 90801-5745

KENWOOD ELECTRONICS CANADA INC.
Canadian Headquarters and Distribution

6070 Kestrel Road, Mississauga, Ontario, Canada L5T 1S8

TS-480HX		TS-480SAT
TRANSMITTER		
RF Output Power		
HF (AM)	200W (50W)	100W (25W)
50MHz (AM)	100W (25W)	100W (25W)
Modulation: SSB / FM / AM	Balanced / Phase / Low Power	
Maximum Frequency Deviation: Wide / Narrow	Less than ±5kHz / Less than ±2.5kHz	
Spurious Radiation: HF / 50MHz	Less than -50dB / Less than -60dB	
Carrier Suppression	More than 40dB (SSB)	
Unwanted Sideband Suppression	More than 40dB (SSB)	
Transmit Frequency Response	400 ~ 2600Hz (within -6dB)	
XIT Variable Range	±9.99kHz	
Antenna Tuner Matching Range (1.5MHz ~ 50MHz)	16.7 ~ 150Ω	
RECEIVER		
Circuitry	Double superheterodyne	
SSB, CW, AM, FSK	Triple superheterodyne	
FM	71.095MHz / 10.695MHz / 45.5kHz (FM only)	
Intermediate Frequency: 1st IF / 2nd IF / 3rd IF	71.095MHz / 10.695MHz / 45.5kHz (FM only)	
Sensitivity	SSB / CW / FSK (S/N 10dB)	
	Less than 4μV (0.5 ~ 1.705MHz)	
	Less than 0.2μV (1.705 ~ 24.5MHz)	
	Less than 0.15μV (24.5 ~ 50MHz)	
	Less than 0.15μV (50 ~ 54MHz)	
AM (S/N 10dB)	Less than 31.6μV (0.5 ~ 1.705MHz)	
	Less than 2μV (1.705 ~ 24.5MHz)	
	Less than 1.5μV (24.5 ~ 30MHz)	
	Less than 1.5μV (30 ~ 50MHz)	
FM 12dB SINAD	Less than 0.22μV (28 ~ 30MHz)	
	Less than 0.22μV (50 ~ 54MHz)	
Squelch Sensitivity	Less than 18μV (0.5 ~ 1.705MHz)	
SSB / CW / FSK, AM	Less than 1.8μV (1.8 ~ 30MHz)	
	Less than 1.1μV (50 ~ 54MHz)	
FM	Less than 0.2μV (28 ~ 30MHz)	
	Less than 0.2μV (50 ~ 54MHz)	
Image Rejection Ratio	More than 70dB	
IF Rejection Ratio	More than 70dB	
Selectivity	SSB / CW / FSK	
	More than 2.4kHz (-6dB), Less than 4.4kHz (-60dB)	
AM	More than 5.0kHz (-6dB), Less than 40kHz (-60dB)	
FM	More than 12.0kHz (-6dB), Less than 25.0kHz (-50dB)	
IFT Variable Range	±9.99kHz	
Beat Elimination	More than 40dB (1kHz)	
Audio Output Power	More than 2.0W (8 Ω, 10% distortion)	

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5. INTERMAR HF-Remote – Alternativ-Projekt

voip mit ts-480 - trx fernbedienen via lan, wlan und internet

ts-480sat
160m - 6m
100 watt

ts-480hx
160m - 6m
200 watt



voip steht für voice over internet protocol, also dem transport von sprache in datenpaketen auf dem network-layer nach dem osi-modell.

und das soll jetzt auch mit einem kurzwellen-transceiver funktionieren?

mit dem ts-480 hat kenwood den om gleich vor die qual der wahl gestellt:

- der 100watt-trx sat hat einen eingebauten antennentuner, der auch auf 6m arbeitet..
- der 200watt-trx hx ohne antennentuner bringt die 3 db, die sich so mancher om wünscht..

nun sind ja die geschmäcker verschieden und es wurde schon viel geredet und geschrieben über das aussergewöhnliche konzept des ts-480..

da soll sich auch bitte jeder seine eigene meinung bilden, darum geht es hier auch nicht!

ich möchte mit einfachen worten zeigen, wie man mit hilfe der von kenwood zur verfügung gestellten software einen ts-480 über lan und wlan und auch über das internet remote bedienen kann und dabei auch die nf überträgt.

die kostenlose software arcp und arhp findet man bei kenwood:



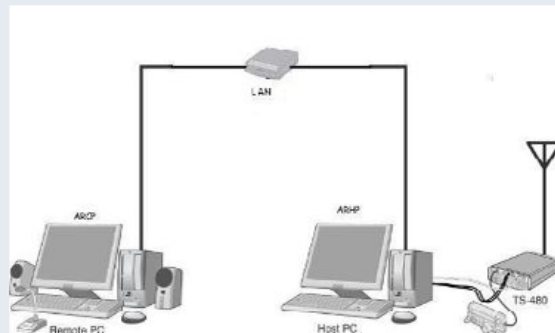
zum softwaredownload bei kenwood bitte auf den transceiver klicken...

hier kann man die aktuelle version von arcp und arhp bei kenwood downloaden..



der ts-480 bietet alle notwendigen anschlüsse gut zugänglich auf der vorderseite der blackbox. wichtig für uns ist die databuchse für das audiokabel zum pc..

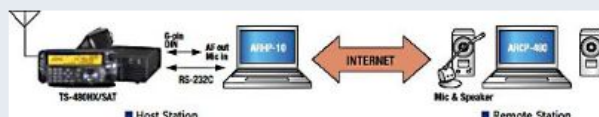
das folgende bild zeigt schematisch den aufbau der konfiguration von trx und dem lan:



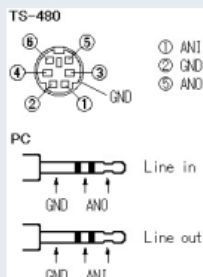
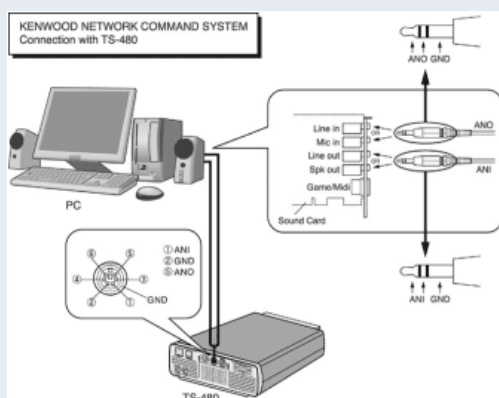
Auf dem Remote Host PC ist die ARHP-Software gestartet. Der TS-480 ist mit Audiokabel mit der Soundkarte verbunden. Über das lokale Netzwerk wird der Transceiver nun vom Remote PC über die ARCP-Software fernbedient.

INTERMAR HF-REMOTE

diese konfiguration ist statt dem lokalen netzwerk auch über das internet realisierbar, jedoch in europa noch nicht freigegeben. der host-pc muss dann über eine feste ip-adresse oder einen dynamischen dns-eintrag über das internet erreichbar sein:



das audiokabel ist nach der folgenden belegung zu erstellen:



hierzu liefert kenwood einen stecker beim ts-480 gleich mit..

wichtig: über die arhp-software ist ein user anzulegen. dieser user muss später beim starten der arcp-software auf dem remote-pc mit dem gleichen usernamen und passwort eingetragen werden..



The image shows a 'Setup User' dialog box with the following elements:

- User Name:** A single-line text input field.
- Password:** A single-line text input field.
- Retype Password:** A single-line text input field.
- Description:** A multi-line text area.
- User is disabled:** A checkbox.
- Buttons:** 'OK' and 'Cancel' buttons at the bottom right.

wenn die arhp-software gestartet wird, meldet sich evtl. die firewall von windows-xp, bzw. eine andere aktive desktopfirewall. hier ist dann evtl. eine regel für den definierten port (default 5000) zu erstellen oder einfach der datenverkehr freizugeben..

Quelle; <http://www.dl4md.de/>

6. INTERMAR HF-Remote – Software-Links



Link zur Software ARCP

für Anwender

[http://213.135.13.70/dmddocuments/
soft_anwender_user.zip](http://213.135.13.70/dmddocuments/soft_anwender_user.zip)



Software ARH10

für HF-Remote-Station

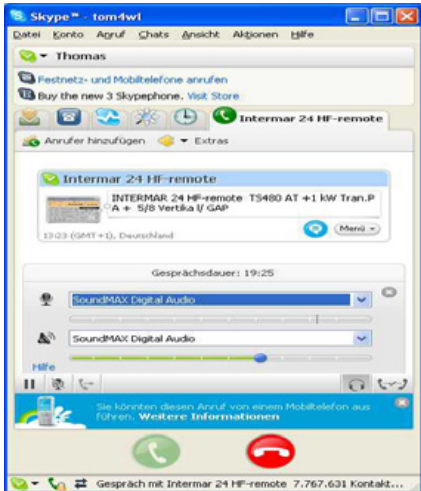
[http://213.135.13.70/dmdocuments/
soft_gateway.zip](http://213.135.13.70/dmdocuments/soft_gateway.zip)



HF-Remote in den USA

von N8AD (Len)

<http://www.hfremote.us/>



Bitte zuerst Skype einrichten:

<http://www.skype.com/intl/de/>

Geschlossene Benutzergruppe
einrichten.

Grund: Es darf nur der berechtigte
User anrufen.