

Inhaltsverzeichnis

1. 4m-Band/70MHz	2
2. Hauptseite	3

4m-Band/70MHz

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Zurück zur Seite [Hauptseite](#).

Quelltext der Seite Hauptseite

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[[Kategorie:UKW Frequenzbereiche]] ==70MHz – the friendly band== Anlässlich des International Geophysical Year 1957/1958 wurden Funkamateuren in Europa VHF Frequenzen zwischen 50-72 MHz zuteil:
Irland: 70,575-70,775 MHz
 Frankreich: 72,0-72,8 MHz
 Finnland: 70,2-70,3 MHz
 Deutschland: 70,3-70,4 MHz
 England: 70,2-70,4 MHz, 50 W, A1, A2, A3
 Niederlande: 70,3-70,4 MHz
 Norwegen: 50,0-54,0 MHz, A1, A2, A3, F3 + 70,6-72,0 MHz, A1, A2, A3, F3
 Schweden: 50,0-50,5 MHz, 150 W
 Jugoslawien: 72,0-72,8 MHz
 Im Zuge des IGY wurden auch in Österreich 10 Sonderlizenzen für die Verwendung des 70MHz Bandes vergeben. Dem OE-Archiv kann man entnehmen, dass drei bis vier Funkamateure von dieser Möglichkeit Gebrauch gemacht haben: * OE6AP (sk) gelang der Erstkontakt mit YU3, Datum/Rufzeichen der Gegenstation sind leider unbekannt. * OE2JG/p brachte die Erstverbindung mit Deutschland, mit DL1EI 1957 ins Log. * OE7AR (sk) betrieb eine 70MHz Bake unter dem Rufzeichen OE7IGY. Schon vor dem zweiten Weltkrieg waren britische Funkamateure im Besitz einer Frequenzzuteilung im Bereich der „ultra high frequencies“, im 56 M/C Band (damals sagte man noch Megacycles), danach stand noch ein Segment zwischen 58,5 und 60MHz zur Verfügung, doch das Aufkommen des neuen Mediums „Fernsehen“ setzte dem am 31.März 1949 nach nur drei Jahren ein Ende. Intensives Lobbying seitens der RSGB bewirkte dann erst im November 1956 eine Freigabe des Bandsegments 70,2 bis 70,4MHz, man war zwar nicht mehr auf „Five“, hatte aber den Grundstein für das „Four“ Band gelegt, welches heute zwischen 70,025 und 70,5 MHz genug Raum für Amateurfunkbetrieb bietet. Man sollte herausstreichen, dass „Four“ ein sehr UK-spezifisches Band darstellt und die grossen, meist japanischen Hersteller dieses Bandsegment nicht in ihren Serienprodukten berücksichtigten – mit dem Ergebnis, dass eine Vielzahl der Gerätschaften auf 70MHz selbstgebaut werden müssen. ==Was ist so besonders an 4m?== Die Tatsache, dass dieses Band nicht überall den Funkamateuren zur Verfügung steht (vor allem nicht in den USA und Japan) bedeutet, dass praktisch keine kommerziell gefertigten Gerätschaften zur Verfügung stehen. Es kommen ausschließlich selbstgebaute oder umgebaute kommerzielle Geräte zur Anwendung, was mit sich zieht, dass die Amateure in diesem Band meistens größeres technisches Interesse aufweisen als in anderen VHF Bändern. 4m zeigt darüberhinaus auch im Mobilbetrieb interessante Eigenschaften, da Fading wesentlich schwächer als im 2m oder 70cm Band zu beobachten ist – und das bei günstigeren Antennendimensionen als auf 6m. Und außerdem: 4m ist als das „freundliche Band“ bekannt – Sie sollten selbst herausfinden, warum das so ist. [[Bild: Zuweisungen 4m.jpg|thumb|4m Zuweisungen]]

==Internationale Bandzuweisungen auf dem 70MHz Band ==

Land	Frequenz [kHz]	Leistung [W]	License	Anmerkung
Belgium	69.950	10 ERP	experimental, 10 kHz bandwidth	-
Croatia	000-450	10		-
Czech Republic	200-300	10 ERP	Individual	20 licenses until end of 2008, 50 until end 2009
Denmark	988-062 088-112 188-212 238-287 313-387 413-512	25	CEPT	
Eire	125-450	50 PEP	General	25 W PEP mobile
Estonia	041-042 140-300	10 EIRP	 100	/10
Beacon	 CEPT	Class A and B: 100 W Class D: 10 W	-	-
Faeroe Islands	000-212 238-500	25	Individual	Everybody can apply for a license
Finland	000-175 225-300	25-100	General	
	70,000-70,175 MHz and 70,225-70,300 MHz. Maximum power is 25 W, 30 W or 100 W depending on location and license class	-	-	-
Greece	200-250	100 PEP	CEPT	Max bandwidth 3 kHz, i.e. no FM
Greenland	000-500	500-1000	CEPT?	Conditions to be confirmed
Italy, San Marino, SMOM, Vatican City	088-112 188-212 288-312	25 EIRP	Residents	No transmission within 30 km from Austria, France and Switzerland
Luxemburg	150-250	10 ERP		
Monaco	000-500	100	CEPT	Contact André Bertholier, 3A2DW, at the authorities, before operation
Norway	006-008 137-187 262-312 362-387 412-462	100		Segments: 70,0625-70,0875 MHz, 70,1375-70,1875 MHz, 70,2625-70,3125 MHz, 70,3625-70,3875 MHz and 70,4125-70,4625 MHz valid for Norway, Svalbard, Bear Island, Jan Mayen, Bouvet Island, Peter I Island and the Norwegian land areas on Antarctica
Portugal Azores, Madeira	157-212 238-287	100 EIRP	Non CEPT	Class A only
Slovakia	250-350	10		As from May 2009 limited operation for 1 year
Slovenia	000-450	100		
Somalia	000-500	3000		Power limit is not a typo!

South Africa||000-300||400|| ||Power limit is in SSB/CW section |- | Spain||144-156
194-206||10 ERP||CEPT|| |- | UK, Gibraltar,
Sovereign Bases||000-500||160|| || |- } ==Transceiver== Das Fehlen kommerziell hergestellter Transceiver hat die OMs in diesem "britischen" Band zur Entwicklung von Umbauten kommerzieller Geräte bewegt, wie z.B. dem ASCOM SE550, Philips MX290 oder FM1000. Für reinen FM Betrieb bietet der britische Hersteller Garex das Modell 4001 an. Darüberhinaus findet man in der Literatur Umbauanleitungen für das Icom IC-E90 und das Yaesu FT-847, letzteres wird auf diesem Band jedoch mit bescheidener Performance beschrieben. ==Transverter== Der erfolversprechendste Weg um auf 4m auch in SSB qrv zu werden, sind sogenannte Transverter, von denen im folgenden einige vorgestellt werden sollen. Bei den Steuergeräten für Transverter gibt es zudem auch wichtige Eigenschaften zu berücksichtigen, wie etwa das Vorhandensein eines eigenen Ausgangs mit kleiner Sendeleistung (z.B. IC735) oder eines getrennten Empfängereingangs, sowie eine Verknüpfungsmöglichkeit mit der Frequenzanzeige des Transceivers (z.b. KENWOOD TS 2000). { | cellpadding="0" cellspacing="0" border="1" width="80% | Die britische Firma Spectrum Communications produziert viele Produkte für das VHF Band, darunter auch einen 4m Transverter als Bausatz und Fertiggerät: http://www.spectrumcomms.co.uk/amateur.htm#TRANSCIVE_CONVERTERS Das Bild zeigt den Bausatz des 4m/10m Transverters. [[Bild: SpCommTransverter4_10.jpg|thumb|Sectrum Communications]] |- |OMs aus Dänemark haben ein von OE9PMJ (sk) entwickeltes Transverter Konzept für das 4m Band umfunktioniert, welches als Bausatz erhältlich ist: <http://www.rudius.net/oz2m/70mhz/index.htm> Der Bausatz kostet 125 € incl.Versand in Europa und unterstützt das OZ7IGY Bakenprojekt. Mit derzeit 175 verkauften Bausätzen ist dieser Transverter vermutlich das erfolgreichste Projekt dieser Art. Eine dazu passende 25 W PA gibt es als kit um 130 €. [[Bild:Transverter OZ2M.jpg|thumb|OZ2M]] |- |High end Transverter von Kuhne electronic http://www.kuhne-electronic.de/de/shop/147_Transverter/article:114_TR_70_H [[Bild:Tr70h.JPG|thumb|Kuhne]] |- |Die Firma Mechanics & Electronics Inc, von Gabi HA1YA, stellt einen ansehnlichen 4m Transverter her, nebst einer Vielzahl von Röhrendendstufen und Stromversorgungen. Auf seiner website gibt es mehr Informationen: <http://ha1ya.config.hu/transverters.htm> [[Bild:Me4t-6 HA1YA.jpg|thumb|HA1YA]] |- |DF2FQ hat einen Transverter für 50MHz und 70MHz entwickelt, der in der CQDL 11/09 beschrieben wurde. Mehr Infos dazu gibts es auf <http://www.df2fq.de/downloads/XV4-10-BB-deu.pdf> [[Bild:XV6.jpg|thumb|XV6]] |- |Tony, IOJX hat einen Ten-Tec 6-meter Transverter erfolgreich für das 4m Band modifiziert. (Preis: ca. 120 USD). Das Projekt wird auf Tonys website beschrieben: http://www.qsl.net/i0jx/tentec_e.html [[Bild:Tentec Umbau IOJX.jpg|thumb|Ten-Tec]] } Andere 4m- Transverter wie z.B. von Microwave Modules, RN electronics, Mutek oder Cirkuit werden nicht mehr regulär vertrieben und können nur mehr auf Hambörsen erstanden werden. ==4m Aktivitäten in Europa== [[Bild:4m Locator Map.jpg|4m|300px]] Hier können Sie den Vortrag "70 MHz Situation in Europa" von Klaus, DL3YEE anlässlich der UKW-Tagung Weinheim 2008 downloaden: [[Media:HR2008_DL3YEE.pdf]] ==Entfernungsrekorde auf 70 MHz== { | cellpadding="0" cellspacing="0" border="1" width="70%" style="background-color:#E0FFFF" | align="center" style="background: #f0f0f0;" | "Propagation" | align="center" style="background: #f0f0f0;" | "Call" | align="center" style="background: #f0f0f0;" | "Locator" | align="center" style="background: #f0f0f0;" | "Call" | align="center" style="background: #f0f0f0;" | "Locator" | align="center" style="background: #f0f0f0;" | "Mode" | align="center" style="background: #f0f0f0;" | "Date" | align="center" style="background: #f0f0f0;" | "Distance" |- | Tropo ||OZ1DJJ ||JO65HP ||G0IUE ||IO81WJ ||SSB ||2003-08-02 ||1084 |- | ||GJ3YHU ||IN89WF ||GM3WOJ ||IO77WS ||CW ||1998-08-09 ||960 |- | ||G3JHM ||IO91LC ||OZ1BNN ||JO55PM ||||2006-01 ||956 |- | ||G4PIQ ||JO01MU ||GM4DHF/P ||IO89QC ||SSB ||1997-08-10 ||839 |- | ||IZ8DWF ||JM87AW ||SV9GPV ||KM25EQ ||||2007-10-06 ||784 |- | |||||||||||- | Aurora ||GW8IZR ||IO73TI ||S51DI ||JN76VL ||CW ||2005-05-08 ||1630 |- | ||S51DI ||JN76VL ||G4IGO ||IO80NW ||CW ||2005-05-08 ||1456 |- | ||EI7IX ||IO53FT ||OZ3ZW ||JO54RS ||SSB ||2004-07-27 ||1366 |- | ||OZ1DJJ ||JO65HP ||EI3IO ||IO63WF ||CW ||2005-05-30 ||1242 |- | ||OZ2LD ||JO54TU ||GI4KSO ||IO64XK ||CW ||2003-10-29 ||1138 |- | |||||||||||- | Sporadic E ||SV2DCD ||KN00NF ||CU8AO ||HM49KL ||SSB ||2006-07-12 ||4405 |- | ||S51DI ||JN76VL ||CU8AO ||HM49KL ||SSB ||2006-07-12 ||3846 |- | ||OY3JE ||IP62OA ||SV5BYR ||KM46CK ||CW 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||CU8AO ||HM49KL ||SSB ||2006-07-12 ||3846 |- | ||OY3JE ||IP62OA ||SV5BYR ||KM46CK ||CW ||2008-05-28 ||3732 |- | ||OY3JE ||IP62OA ||J49K ||KM24CK ||CW ||2008-05-28 ||3661 |- | ||OZ1DJJ ||JO65HP ||CU8AO ||HM49KL ||SSB ||2006-06-03 ||3667 |- | |||||||||||- | Meteor Scatter ||S54M ||JN86CL ||GM4SIV ||OZ2LD ||JO54TU ||GI4KSO ||IO64XK ||CW ||2003-10-29 ||1138 |- | |||||||||||- | Sporadic E ||SV2DCD ||KN00NF ||CU8AO ||HM49KL ||SSB ||2006-07-12 ||4405 |- | ||S51DI ||JN76VL ||CU8AO ||HM49KL ||SSB ||2006-07-12 ||3846 |- | ||OY3JE ||IP62OA ||SV5BYR ||KM46CK ||CW ||2008-05-28 ||3732 |- | ||OY3JE ||IP62OA ||J49K ||KM24CK ||CW ||2008-05-28 ||3661 |- | ||OZ1DJJ ||JO65HP ||CU8AO ||HM49KL ||SSB ||2006-06-03 ||3667 |- | |||||||||||- | Meteor Scatter ||S54M ||JN86CL ||GM4SIV ||OZ2LD ||JO54TU ||GI4KSO ||IO64XK ||CW ||2003-10-29 ||1138 |- | |||||||||||- | Sporadic E ||SV2DCD ||KN00NF ||CU8AO ||HM49KL ||SSB ||2006-07-12 ||4405 |- | ||S51DI ||JN76VL ||CU8AO ||HM49KL ||SSB ||2006-07-12 ||3846 |- | ||OY3JE ||IP62OA ||SV5BYR ||KM46CK ||CW ||2008-05-28 ||3732 |- | ||OY3JE ||IP62OA ||J49K ||KM24CK ||CW ||2008-05-28 ||3661 |- | ||OZ1DJJ ||JO65HP ||CU8AO ||HM49KL ||SSB ||2006-06-03 ||3667 |- | |||||||||||- | Meteor Scatter ||S54M ||JN86CL ||GM4SIV ||OZ2LD ||JO54TU ||GI4KSO ||IO64XK ||CW ||2003-10-29 ||1138 |- | |||||||||||- | Sporadic E ||SV2DCD ||KN00NF ||CU8AO ||HM49KL ||SSB ||2006-07-12 ||4405 |- | ||S51DI ||JN76VL ||CU8AO ||HM49KL ||SSB ||2006-07-12 ||3846 |- | ||OY3JE ||IP62OA ||SV5BYR ||KM46CK ||CW ||2008-05-28 ||3732 |- | ||OY3JE ||IP62OA ||J49K ||KM24CK ||CW ||2008-05-28 ||3661 |- | ||OZ1DJJ ||JO65HP ||CU8AO ||HM49KL ||SSB ||2006-06-03 ||3667 |- | |||||||||||- | Meteor Scatter ||S54M ||JN86CL ||GM4SIV ||OZ2LD ||JO54TU ||GI4KSO ||IO64XK ||CW ||2003-10-29 ||1138 |- | |||||||||||- | Sporadic E ||SV2DCD ||KN00NF ||CU8AO ||HM49KL ||SSB ||2006-07-12 ||4405 |- | ||S51DI ||JN76VL ||CU8AO ||HM49KL ||SSB ||2006-07-12 ||3846 |- | ||OY3JE ||IP62OA ||SV5BYR ||KM46CK ||CW ||2008-05-28 ||3732 |- | 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||2003-10-29 ||1138 |- | |||||||||||- | Sporadic E ||SV2DCD ||KN00NF ||CU8AO ||HM49KL ||SSB ||2006-07-12 ||4405 |- | ||S51DI ||JN76VL ||CU8AO ||HM49KL ||SSB ||2006-07-12 ||3846 |- | ||OY3JE ||IP62OA ||SV5BYR ||KM46CK ||CW ||2008-05-28 ||3732 |- | ||OY3JE ||IP62OA ||J49K ||KM24CK ||CW ||2008-05-28 ||3661 |- | ||OZ1DJJ ||JO65HP ||CU8AO ||HM49KL ||SSB ||2006-06-03 ||3667 |- | |||||||||||- | Meteor Scatter ||S54M ||JN86CL ||GM4SIV ||OZ2LD ||JO54TU ||GI4KSO ||IO64XK ||CW ||2003-10-29 ||1138 |- | |||||||||||- | Sporadic E ||SV2DCD ||KN00NF ||CU8AO ||HM49KL ||SSB ||2006-07-12 ||4405 |- | ||S51DI ||JN76VL ||CU8AO ||HM49KL ||SSB ||2006-07-12 ||3846 |- | ||OY3JE ||IP62OA ||SV5BYR ||KM46CK ||CW ||2008-05-28 ||3732 |- | ||OY3JE ||IP62OA ||J49K ||KM24CK ||CW ||2008-05-28 ||3661 |- | ||OZ1DJJ ||JO65HP ||CU8AO ||HM49KL ||SSB ||2006-06-03 ||3667 |- | |||||||||||- | Meteor Scatter ||S54M ||JN86CL ||GM4SIV ||OZ2LD ||JO54TU ||GI4KSO ||IO64XK ||CW ||2003-10-29 ||1138 |- | |||||||||||- | Sporadic E 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|- | Auroral Es ||OZ2M ||JO65FR ||GM4VVX ||IO78TA ||CW ||2003-08-18 ||1055 |- | ||OZ1DJJ ||JO65HP
||GM3WYL ||IO75 ||CW ||2003-08-18 ||1040 |- | ||OZ2M ||JO65FR ||GM4WJA ||IO87MN ||SSB ||2003-08-18
||965 |- | } Weitere Informationen finden Sie auf www.70mhz.org www.oe1cwj.com [[Benutzer:
OE1CWJ|OE1CWJ]] 18:00, 7. November 2009 (UTC)

Die folgende Vorlage wird auf dieser Seite verwendet:

- [Vorlage:Box Note](#) ([Quelltext anzeigen](#)) (schreibgeschützt)

Zurück zur Seite [Hauptseite](#).