SSTV REVISITED

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Since the last review of hardware and software for colour slow-scan television "SSTV-Almost the State of the Art" appeared in CQ-TV 150, May 1990, developments, upgrades and new products have proliferated, high resolution slow scan is an expanding field, becoming ever more difficult to keep abreast of the progress being made world-wide.

There are mixed feeling amongst devotees over the plethora of new modes of transmission, which arrive with some regularity. A quick check of my own equipment gives a total of over 90 different ways in which a picture can be transmitted or received, none compatible with another, and more are on the way.

Do we need such a collection of modes which polarise amateurs according to the equipment they have? Some styles are decidedly better than others, and whilst it is not the purpose of this article to write down modes, it would not be amiss to indicate reliability based on practical experience over many years.

Whether the origin of the transmission is from convertor or computer the best overall performer is undoubtedly the mode developed by G3OQD, colloquially known as either New-Mode, Martin's mode, or simply M1. This mode is superior, yielding the highest quality picture with reception which continues in the presence of QRM and QSB. It has an edge over all others and deservedly is universally the most widely used.

Other modes, some of which carry emotive names suggestive of superior attributes, do not yield the same consistent quality, resorting to gimmickry and exorbitant prices to attract devotees, with transmissions taking almost as long as Fax, watch-out for your PA!

The following is supplementary to the original article which appeared in CQ-TV 150 and lists the known changes and additions to date.

Convertors

The Volker Wraase SC1 is now superseded by the **SC2**, which claims a high memory resolution of 512 picture elements per line. There are now 16 colour and B&W modes.

Some of the many innovations are the provision of expansion slots, the ability to load a picture from camera during reception or transmission, 265, 144 colour values and switchable digital contrast enhancer.

A new system of input-signal processing using advanced analogue technology, Improved and extended FAX TX/RX and an SSTV 'free-run mode' which switches external sync to an internal quartz clock. This claims to remove completely sync interference and line-fray due to phase distortion.

The unit, priced at DM 2950 + freight (*approximately £1000 + freight*) does not include a power supply, monitor, or necessary keyboard, and there are other options which most SSTV-ers would like to have (e.g: the digital record/playback interface to connect a VCR for loss-free SSTV/FAX image recording DM395 + freight).

Transmissions on 14.23 made by DK3UG using a prototype SC2 have been of the quality one would expect from a 512-line system, but to evaluate fully the pictures would need to be received on a complementary SC2 convertor.

A peculiarity of this convertor is that it does not send a VIS pulse and does not appear to be able to TX in the G3OQD mode.

ROBOT 1200C

This continues in production in its original form. The manufacturers state that they have no plans for any further amateur SSTV convertors. Improvements and modifications are left in the hands of amateurs, but it is noted that later models have a modified louvred case and provisions for increased memory originally introduced by G3OQD.

LM9000C

Amateurs building these convertors must note that some ICs are not readily available in the U.K. and need persistent tracking down. Before parting with money for the boards it would be useful to contact someone who has trodden the path before you. It may not be as cheap or easy as it would seem, although the finished product works equally with the 1200C.

NS88

This is a Japanese clone of the 1200C, selling cheaply and in quantity in Japan. To date it has not appeared in the U.K. market, but a few seem to have reached the USA.

EPROM UPDATES

G3OQD

The Robot 1200c EPROM supplied by G3OQD has been replaced by Version 4. This new EPROM supports the AVT modes of SSTV popularised by Amiga computer users in the U.S.A. Transmission and receive in 24, 90, 94, 188 second colour and 125 second B&W are supported together with QRM and Narrow modes. The EPROM also contains a character generator, test cards and improved FAX receive. A computer is not necessary to use these facilities, entry is made directly from the 1200C touch-pads. An addition not greeted with universal approval is the automatic and none removable insertion of the station call-sign at the top of every picture sent.

SCOTTIE

The V.3.6 EPROM costing $220 is supplied to foreign hams only. It supports neither AVT nor G3OQD modes. Registered U.K. Scottie users who purchased earlier versions with promised updates 'shall be' left high and dry with obsolete EPROMS.

SOFTWARE

SSTV.COM (KC5VC)

This has been upgraded to V.39.7 and now includes the AVT modes complementary to the G3OQD V.4.0 EPROM. The Auto transmit section has been re-written to exclude the lesser little used modes and a new set of editing facilities added. The cost to new users is £12.00 with updates for existing users costing £5.00 plus a formatted disk to suit their system. The net proceeds going to Kathy Williams, KC5VCs widow. This programme does not have mouse support. (Language: Turbo Pascal).

SCAN (W5ZR)

Rewritten and presented in a new format, this mouse driven software is a very smooth and comprehensive package, including some graphic routines supplied by N9AMR and some interesting routines for converting pictures to dual coloured posters. The N9AMR graphics entails a great deal of math computation. The addition of a 12Mhz+ co-processor, whilst not essential, gives the programme just enough extra speed to avoid waiting around for a function to complete. Not a programme for Amstrad 1512 and 1640 computers, but it will run quite happily up to 25Mhz.

IMAGE. (WD9GIG)

This is a programme written by a computer expert par excellence, who knows the art of programming inside out, but it is not at all

easy to use. The programme is interactive, functioning via a series of windows which can be dragged anywhere on the screen and saved for recall on next boot-up. It works from series of icons created by the user which are used to load and save pictures (very slow).

Limited text fonts and graphics are located on the picture by entering x,y parameters, but the text has a unique system of colour and pattern variations giving a virtually unlimited range.

This is a complicated programme and although there is a printable 48 page manual on the disk. However, it would take a great deal of time..weeks...to come to terms with the intricate structure to use the programme usefully on air.

Unlike other software this programme will load pictures created with PC.Paint .PCX format. The drawback seems to be that .PCX format is too large to fit the Robot 1200c display so only the top-left quadrant is loaded up to the Robot.

The simulation of the Robot front panel is the best that has been seen and being accessed by the mouse gives a very smooth control over most of the usual Robot functions. (Language: C++).

HI-RES (N9AMR)

This newcomer to the scene by N9AMR is going to become the fore-runner. I can say this without equivocation having used both versions 1.2 and the current version 1.4. The author Tom Jenkins told me that his intention was to write a programme which had all the best points of GEST and KC5VC, plus his own brand of graphic manipulation and facilities previously undreamt of in the world of SSTV. He has done just that.

The programme is menu/mouse driven, supports all 1200C functions, has a superb graphics system and is able import and load picture files made by all the other current formats (e.g: .PIX,.IMG,.PIC, etc.).

The ability to load the near photographic quality .GIF format adds a picture quality previously attainable by three amateur experimental projects.

The graphics manipulation is extraordinary, being a major extension of the facility incorporated into the W5ZR Scan, pictures can be wrapped round cylinders, boxes, globes, turned into wine-glasses, scrolls, twisted and multiplied up to the limits of the imagination and ingenuity of the user.

Not essential, but a great asset, is a Maths co-processor in your computer.

The programme supports all known modes and EPROMS, and takes up the minimum of memory space.

Lastly, the text editing is simple to use. Any of the GEST fonts can added to the menu so there is a style to suit all tastes. (Language Turbo Pascal 5).

BBC

Software for the BBC computer has had some updates but no details have been provided. Production of the Acorn BBC Master 128 computer has now ceased.

ATARI ST (WB2OSZ)

Software for running a colour RX/TX system has been developed by John Langner WB2OSZ. John very helpfully sent reprints from the American Amateur Radio Magazine entitled 'Colour SSTV for the Atari ST'. These articles contain a mass of technical information, circuits, parts lists, useful contacts, and would be helpful for the amateur with little prior knowledge of SSTV.

John wrote in Jan 1991 that he was perfecting a new version with a graphical user interface, full-screen images without flicker and other new features. I will send copies of the articles to any interested hams (cost about 1.50).

MFJ-1278 for Atari

Multimode data controller, includes basic SSTV GEST. Moving pictures on Slow-scan TV.? Yes quite possible and easy in B&W with Gest. I have a few copies of the Gest manual left. There is a later version of Gest to be had if you don't mind the $150 rip-off.

COMMODORE

SSTV programmes for both C64 and C128 are available. Both require a special interface board model CIM64 available from Robot Research.

IN THE PIPELINE

☞ A rumoured colour SSTV convertor on an expansion board for PC AT computers. No external convertors or monitors will be required. Sounds too good to be true.

☞ A PC programme to print SSTV pictures to colour printers other that the out-dated Transtar specified for the 1200c. Intended for Paintjet colour printers, but possibly useable with colour ribbon printers, it will send SSTV pictures saved to disc to the computer screen where, with the use of a supplementary commercial programme, you can edit, crop, enhance and colour correct, etc., before printing.

☞ A new stand alone SSTV convertor from the USA to rival the 1200C.

MORE CONTACT ADDRESSES:

IMAGE: Dick Isely, 736 Fellows Street, St.Charles, IL 60174, USA

HI-RES: Tom Jenkins, 5968 S.Keystone Ave., Indianapolis, IN 56227, USA

ATARI: John Langner, 115 Stedman Street, Chelmsford, MA 01824, USA

SC2: Volker Wraase Electronic, Kronsberg 10, D-2300 Altenholz, Germany

COMMODORE: Tom Hibben, Box188 DeSoto, WI 54624, USA

GEST: Brian Summers, 1462 Epping Road, Burlington, Ont. L7M 1P4, Canada

MFJ: UK Agents may stock, try KW Communications Ltd, Chatham Road, Sandling, Nr.Maidstone, Kent, ME14 3AY.

ROBOT: Robot Research, 5636 Ruffin Road, San Diego, CA 61927, USA